

PART 1: SPECIFICATION FOR SUBMISSIONS OF PLANS  
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CITY OF COLUMBIA REGULATIONS  
PART 1  
SUBMISSIONS OF PLANS

- 1.1 GENERAL – All reports, final plans and specifications should be submitted at least two weeks prior to the date on which action by the City Engineer is desired. Preliminary plans and the engineer’s report may be submitted for review prior to the preparation of final plans. No approval for construction can be issued until final, complete, detailed plans and specifications have been submitted to the reviewing authority and found to be satisfactory. All plans for projects located within the City limits of the City of Columbia must be submitted through the Planning Commission in accordance with City Subdivision Regulations. Documents submitted for formal approval shall include, but not be limited to:
  - 1.1.1 Summary of the basis of design, where applicable.
  - 1.1.2 Operation requirements, where applicable.
  - 1.1.3 General layout.
  - 1.1.4 Detailed plans.
  - 1.1.5 Specifications.
- 1.2 ENGINEER’S REPORT – The engineer’s report for improvements should, where pertinent, present the following information:
  - 1.2.1 General information, including:
    - 1.2.1.1 Description of existing facilities (water works, sewerage facilities, etc.).
    - 1.2.1.2 Identification of the area served.
    - 1.2.1.3 Name and mailing address of the owner or developer.
  - 1.2.2 Extent of proposed system, including:
    - 1.2.2.1 Description of the nature and extent of the area to be served.
    - 1.2.2.2 Provisions for extending the proposed system to include additional areas.
    - 1.2.2.3 Appraisal of the future requirements for service, including existing and potential industrial, commercial, institutional and other needs.
  - 1.2.3 Alternate plans – Where two or more solutions exist for providing service, each of which is feasible and practicable, discuss the alternate plans and give reasons for selecting the one recommended, including financial considerations.
  - 1.2.4 Soil, ground water conditions, and foundation problems, including:
    - 1.2.4.1 Description of the character of the soil through which water mains are to be laid.

- 1.2.4.2 Description of foundation conditions prevailing at sites of proposed structures.
- 1.2.4.3 Description of the approximate elevation of ground water in relation to subsurface structures.
- 1.2.5 Water consumption and sewage generated, including:
  - 1.2.5.1 Description of the population trends as indicated by the estimated population which will be served by the proposed system.
  - 1.2.5.2 The estimated number of new lots to be served each year until the subdivision is “built out”.
- 1.2.6 Fire flow requirements, including:
  - 1.2.6.1 Requirements of the American Insurance Association and related agencies as to fire flows required or recommended in the service area involved (where applicable).
  - 1.2.6.2 Fire flow which will be made available by the proposed or enlarged system. (See design criteria, Part 2.1.)
- 1.2.7 Sewerage system available – Describe the existing system and sewage treatment works, with special reference to their relationship to existing or proposed water works structures which may affect the operation of the water supply system, or which may affect the quality of the supply.
- 1.2.8 Automatic equipment – Provide supporting data justify automatic equipment, including servicing requirements, pump curves and operation manuals.
- 1.2.9 Project site, including:
  - 1.2.9.1 Discussion of various sites (pumping stations, etc.) considered and advantages of the recommended ones.
  - 1.2.9.2 Proximity of residences, industries, and other establishments.
  - 1.2.9.3 Presence of any potential sources of pollution that may influence the quality of the supply or interfere with the effective operation of the water works system, such as sewage absorption systems, septic tanks, privies, cesspools, sink holes, refuse and garbage dumps, etc.
- 1.2.10 Financing, including:
  - 1.2.10.1 Estimated cost of integral parts of the system.
  - 1.2.10.2 Detailed estimated annual cost of operation.
- 1.2.11 Future extensions – Summarize planning for future needs and service, including:
  - 1.2.11.1 Easements for future expansion of the water and sewer systems to serve adjacent property. These must be reserved at 600’ intervals along the boundary of the

property to allow future connection to the system being constructed within the subdivision. Reasonable deviations from the 600' rule to allow alignment with future streets, property lines, etc., will be considered.

- 1.2.11.2 Easements for water, sewer and storm drain facilities shall be provided on private property. In new subdivisions, easements may be within street rights-of-way provided the easement predates the filing or recording date of the subdivision plat. Other exceptions are made for temporary lines and deep sanitary sewer lines where there is little probability of future grade conflict with highway construction. These must be justified in detail.
- 1.2.11.3 Easements for water main, sanitary sewer, and storm drain extensions to serve a new area must be provided by the developer unless specifically addressed in the extension agreement between the City and developer.
- 1.3 PLANS – Plans for improvements should, where pertinent, provide the following:
  - 1.3.1 General layout, including:
    - 1.3.1.1 Suitable title.
    - 1.3.1.2 Name of municipality.
    - 1.3.1.3 Vicinity map drawn to 1" = 1,000' scale of the area or institution to be served (See example, Part 1.7). This applies only to water construction plans.
    - 1.3.1.4 Scale, in feet.
    - 1.3.1.5 North point.
    - 1.3.1.6 USGS datum.
    - 1.3.1.7 Boundaries of the municipality or area to be served, including boundaries of any proposed phasing.
    - 1.3.1.8 Date, address and name of the designing engineer.
    - 1.3.1.9 Imprint of seal and signature of professional engineer.
  - 1.3.2 Detailed plans, including but not limited to:
    - 1.3.2.1 Topographical map of the property, sometimes referred to as a site development plan, showing lot layout, lot and block numbers, street width and names, etc., is to be used as a base map. Upon this map is to be superimposed the system being designed, i.e., water, sanitary sewer or storm drain.
    - 1.3.2.2 Construction plan and profile sheets must be drawn to a scale of not less than 1"=100'. They must carry the seal and signature of a professional engineer registered in the State of South Carolina on each sheet. The plan sheet size shall be 24"x36". These plans are not to be confused with the requirements in Paragraph 1.2.2.1.

- 1.3.2.3 The plans must show the proposed name of the subdivision, owner and/or subdivider, graphic scale, north point and date.
- 1.3.2.4 The plan shall show the acreage to be subdivided, and the boundaries of the tract with all bearings and distances indicated. The boundary survey shall be to such a degree of accuracy that the error of closure shall comply with the standards set forth by the South Carolina Board of Engineering Examiners.
- 1.3.2.5 Existing conditions to be shown shall include:
  - 1.3.2.5.1 Topography by contours at vertical intervals of not more than five (5) feet. Mean Sea Level Datum is Required and this must be so stated on the plans. In those instances where mean sea level bench datum is not reasonably close, the City will set a bench at or near your proposed work.
  - 1.3.2.5.2 Deleted.
  - 1.3.2.5.3 In case of resubdivision, a copy of the existing plat with proposed resubdivision superimposed thereon.
  - 1.3.2.5.4 Location of streams, lakes, swamps and land subject to flooding based on 100 year frequency flood. (See City of Columbia Sediment and Erosion Control and Drainage Ordinance.)
  - 1.3.2.5.5 Location of existing property lines on adjoining property and buildings on the property to be subdivided.
  - 1.3.2.5.6 Location and ownership and rights-of-way of streets, roads, railroads and utility lines either on or adjacent to the property to be subdivided. Specify whether utility lines are in easements or street rights-of-way and show location of poles or towers.
  - 1.3.2.5.7 Size and location of existing sewers, water mains, drains, culverts or other underground facilities within the street or within the rights-of-way of streets or roads adjoining the tract. Grades and invert elevations of existing sewers shall be shown.
  - 1.3.2.5.8 Location of existing trees (to include type and size), streetlights (to type of pole and fixture), type of road signage and pavement markings.
  - 1.3.2.5.9 The acreage of each drainage area affecting the proposed subdivision, both onsite and offsite.
  - 1.3.2.5.10 All elevations shall be expressed in Mean Sea Level Datum and so indicated on the plans.
  - 1.3.2.5.11 Location of the City limit lines and County lines, if applicable.
- 1.3.2.6 Proposed conditions to be shown shall include:
  - 1.3.2.6.1 Layout of streets, road and alleys, with widths and road names, and type of gutter / drainage system.

- 1.3.2.6.2 Construction plans for streets showing natural and finished grades and cross-sections (if applicable).
- 1.3.2.6.3 Layout of all lots; scaled dimensions on lots; lot and block numbers, existing utility easements with width and use.
- 1.3.2.6.4 Construction plan and profile for sanitary sewers (if applicable) with grade, pipe size and material, location of manholes and points of discharge.
- 1.3.2.6.5 Plan and profile for storm drainage system with grade, pipe sizes, material, and location of outlets. Sediment and Erosion Control measures and storm drains shall be designed in accordance with the City of Columbia Sediment and Erosion Control and Storm Drainage Ordinance. Plans shall show sufficient off-site information and include method and computations where indicated. Transmittal letter shall include the statement by a registered engineer or architect that sediment and erosion controls and storm drain design meets the requirements of the City ordinance. For certain projects as defined in state law, the certification may be signed by a duly registered landscape architect.
- 1.3.2.6.6 Construction plans for water supply system with pipe sizes, material and location of hydrants and valves. The site development plan is acceptable for this purpose provided the plan is on 24"x36" sheets. Otherwise separate water construction plans will be required.
- 1.3.2.7 Submittal Requirements.
  - 1.3.2.7.1 For projects inside the City limits plans must be submitted to the City Planning Commission by delivery to the Zoning Administrator's Office, First Floor, 1136 Washington Street, and payment of applicable fees for processing and review. Submit five (5) copies of sketch plans; seven (7) copies of Preliminary Plat (construction drawings); or five copies of the final plot with one set of record drawings in mylar form, as applicable. When submitting construction plans for sanitary sewer, submit two extra sets of plans for submittal by the City to SCDHEC for permitting purposes.
  - 1.3.2.7.2 For projects outside the City Limits, submit two complete sets of plans for water construction and four sets of plans for sanitary sewer construction as applicable.
- 1.4 REVISIONS TO APPROVED PLAN – Any deviations from approved plans or specifications affecting capacity, hydraulic conditions, operating units, the functioning of water treatment processes, or the quality of water to be delivered, must be approved by the reviewing authority before such changes are made. Revised plans or specification should be submitted in time to permit the review and approval of such plans or specifications before any construction work, which will be affected by such changes, is begun.
- 1.5 SPECIFICATIONS – One set of complete, detailed, technical specifications shall be supplied for the proposed project.
- 1.6 RECORD DRAWINGS – Requirements for record drawings submitted for acceptance by the City:

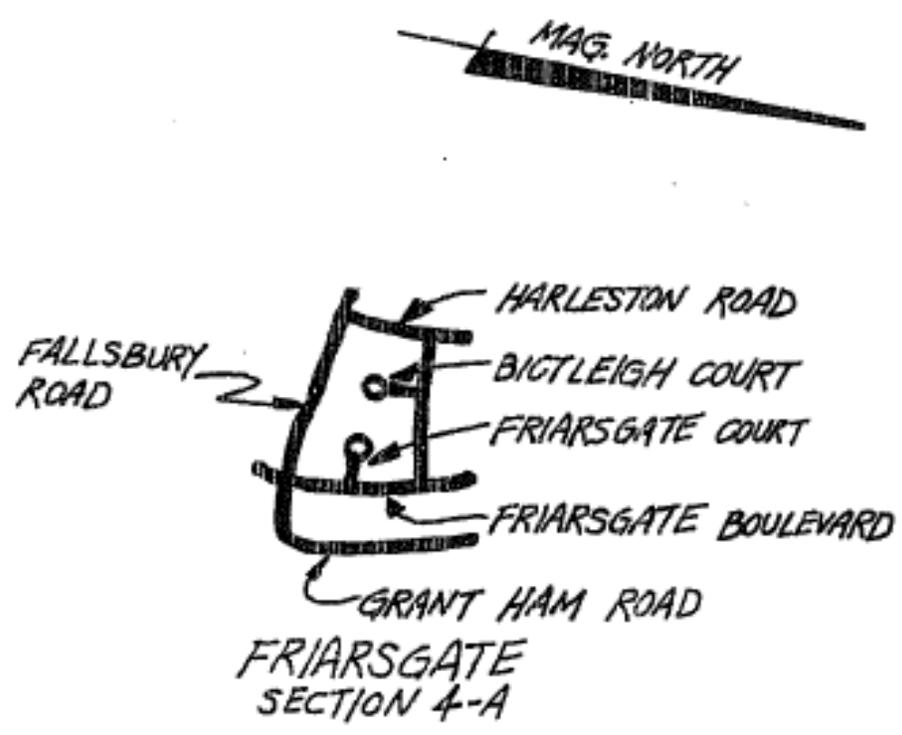
- 1.6.1 The record drawing shall conform substantially to the approved construction drawings and be submitted on disk in electronic format as required by Part 28 of this manual and in the form of a mylar, marked “record drawing” in the title block. It shall be drawn to a scale not smaller than 1”=100’ and will include the following information:
  - 1.6.1.1 Name of subdivision, and name and address of the fee simple title holder conveying the improvements and easements to the City.
  - 1.6.1.2 Graphic scale, north point and date.
  - 1.6.1.3 Vicinity map (record drawing) drawn to a scale of 1”=1,000’ showing the relationship of the subdivision to the surrounding area. This applies only to water system drawings.
  - 1.6.1.4 Street names and ownership and lot and block numbers.
  - 1.6.1.5 Tax map sheet number, block number and lot number.
  - 1.6.1.6 Topography by contours at vertical intervals of not more than five (5) feet depicting final or finished conditions after all construction is complete. Mean Sea level Datum is required and this must be so stated on the face of the plans.
  - 1.6.1.7 Sufficient data to determine readily and reproduce on the ground the location, bearing and length of every road right-of-way line, subdivision boundary line, and block line whether curved or straight.
  - 1.6.1.8 Newly installed roads shall be identified in plan view, profile of the centerline, and cross sections. Storm drainage systems shall be shown in plan and profile. All inverts and throats of constructed storm drainage boxes, as well as size, material and slope of storm drainage pipes shall be identified.
  - 1.6.1.9 All dimensions to the nearest one-tenth of a foot and angles to the nearest minutes.
  - 1.6.1.10 Location and description of monuments.
  - 1.6.1.11 All rights-of-way, easements, and areas to be dedicated to public use with the purpose of each stated.
  - 1.6.1.12 The following signed certificate shall appear on the final record drawing which is submitted:
    - 1.6.1.12.1 “I hereby certify that the street, storm drainage system, sanitary sewer system and water system in \_\_\_\_\_ Subdivision as shown on the Plat dated \_\_\_\_\_ prepared by \_\_\_\_\_ has been installed in accordance with the Preliminary Plat (Construction Drawings) approved \_\_\_\_\_.”

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Registered Engineer, State of South Carolina

- 1.6.1.12.2 State Plane Coordinate System data of all valves, bends, fire hydrants, individual service lines and all installed appurtenances on water system. State Plane Coordinate System data for sanitary sewer lines, manholes, wyes, and all installed appurtenances on the sewer system shall be shown, including the record drawing plan and profile. All line work shall be identified by length, size and material. All profile sheets shall show length, size, material, and slope. Coordinate System data stormdrain lines, manholes, catch basins, junction boxes, and all installed appurtenances on the storm drain system shall be shown, including the record drawing plan and profile. All line work shall be identified by length, size and material. All profile sheets shall show length, size, material, and slope. Coordinate System data for all underground electrical and irrigation systems that feed publicly owned and maintained property or utilities. All line work shall be identified by length, size and material to include both wiring and conduit. Location of all handholes, valve boxes and meters shall be identified. .Where utility lines run through easements or rights-of-way their location in relation to easement lines must be shown. Location data shall be referenced to stable physical features such as curb corners, building corners, property corners, etc. Construction line station numbers will not be as references.
- 1.6.1.12.3 State Plane Coordinate System data of all trees, streetlights, street signs, traffic control devices.
- 1.7 RESUBMISSION OF PLAN – Construction plan approval shall be valid for only two (2) years. In the event required improvements have not been constructed within that time, the plans must be resubmitted for approval subject to ordinances and regulations in affect on that date.

L7 VICINITY MAP



SCALE: 1"=1000'

# LEGEND

1	PROPERTY LINE				
2	FENCE				SD 15"
3	RETAINING WALL, SIDEWALK				SS 8"
4	LEVEE OR EMBANKMENT				FM 6"
5	MARSH				(T)
6	TREES (DECIDUOUS)				
7	TREES (CONIFEROUS)				OR
8	BRUSH				OR
9	TREE LINE (BEGIN AND END)				OR
10	DITCH, CREEK, STREAM				(LS)
11	MONUMENT, TELEPHONE BOX				
12	PROPERTY IRON, OLD OR NEW				
13	GUARD RAIL				
14	BRIDGE				
15	CULVERT AND HEADWALLS				
16	POWER & TELEPHONE POLE				
17	GUY WIRE				
18	CABLE TV				
19	GAS				
20	TELEPHONE				
21	ELECTRICAL, UNDERGROUND & ABOVE GROUND				
22	WATER				
23	STORM DRAIN				
24	SANITARY SEWER				
25	FORCE MAIN				
26	WATER TANK				
27	BOOSTER PUMP				
28	JUNCTION BOX OR MANHOLE (CLOSED GRATE)				
29	CATCH BASIN OR MANHOLE (OPEN GRATE)				
30	LIFT STATION				
31	RAILROAD				
32					
33	PROPOSED UTILITY				
34	POINT OF INTERSECTION, PI				
35	WATER VALVE, PROPOSED & EXISTING				
36	FIRE HYDRANT, PROPOSED & EXISTING				
37	CASING				
38	AIR RELEASE VALVE				
39	SERVICE WYE				
40	PLUG				
41	CURB				
42	NORTH ARROW				
43	R/W LINE				
44					

COLUMBIA UTILITIES AND ENGINEERING DEPARTMENT

L.R. 6/11/92